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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,683	12/03/2001	Wolfgang Glaeser	P67314US0	9513

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EXAMINER

VIJAYAKUMAR, KALLAMBELLA M

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 04/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,683

Applicant(s)

GLAESER, WOLFGANG

Examiner

Kallambella Vijayakumar

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

Detailed Action

- This application is a 371 of PCT/EP00/03799 filed 04/27/2000. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) based on an application filed in Germany with application number/s 19925048.8 filed 06/01/1999. Claims 1-7 are currently pending with the application.
- The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
- The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A (1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the examiner on form PTO-892 has cited the references, they have not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 2 the phrase "approximately" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "approximately"), thereby rendering the scope of the claim(s) unascertainable. It can not be ascertained what is encompassed by the phrase "approximately", specification does not provide any guidance to determine what value are included and what values are excluded, and one ordinary skilled in the art would not be able apprise the boundaries of the limitations of instant claims by the applicants. See MPEP § 2173.05(d).

The term "a little larger" in claim 2 is a relative term which renders the claim indefinite. The term "a little larger" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "just a little" in claim 2 is a relative term which renders the claim indefinite. The term "just a little" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "almost all" in claim 3 is a relative term which renders the claim indefinite. The term "almost all" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "excess amounts" in claim 7 is a relative term which renders the claim indefinite. The term "excess amounts" is not defined by the claim, the specification does not

provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention in relation to Claim-1.

Claim Rejections - 35 USC § 102

Claim Rejections - 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- Claims 1-5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hitachi (JP 50-032,437).
 - Hitachi teaches filling of Zn-electrolyte paste obtained by blending Zn powder and CMC with an electrolyte obtained by adding 0.01 mercapto-propionic acid to 30% KOH into a hollow can portion (Abstract). The amount of electrolyte filling at least being enough to fill the inter-particle void spaces, and the volume of the paste being equal to or larger than the bulk volume of the powder would be inherent by virtue of the mix being in a state of paste and the components being mixed together. The direct contact between the particles in a paste state would be inherent by virtue of close contact of the particles in a gel or a paste, as shown by Tada. The change in the volume of the paste or slurry in relation to the mix of the dry powders would be inherent. All the limitations of the instant claims are met.
 - The reference is anticipatory.
 - In the alternative that the disclosure by Hitachi be insufficient to arrive at the instant claims, it is in the purview of a skilled artisan to make obvious modifications in

composition and preparation parameters to improve the construction and performance of the batteries, and to arrive at the limitations of instant claims by the applicants.

- Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitachi (JP 50-032,437) in view of Tada et al (JP 04-284,357).
 - The disclosure by Hitachi et al on the mixture is set forth as disclosed above.
 - Hitachi does not disclose the use of zinc or its alloy with a bulk density lower than 2.8 g/ml or the use of little excess electrolyte for dosing the paste into the cell per the limitation of the instant claim by the applicants.
 - Tada et al disclose an alkaline battery comprising of In doped Zn powder with a bulk specific gravity of 0.29 to 3.5 g/cc with improved contact between the alloy powder particles, providing excellent corrosion resistance and discharge performance in a battery (Abstract).
 - Hitachi teaches the making of battery from a paste and its advantages. It would be obvious for an ordinary skilled person in the art to further improve the battery and electrodes of Hitachi by combining with the low bulk density zinc alloy powders providing better particle contact, corrosion resistance and discharge performance per the teachings of Tada, and make any obvious changes to the composition and/or the fabrication techniques by adding excess electrolyte for fluidity based on design choice of formulation and manufacture, to arrive at the limitations of the instant claims by the applicants.

- Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Warszawski (US Patent # 4,172,924).
 - Warszawski et al disclose a paste for use in the battery comprising of metal particles such as Zn, and an electrolyte wherein the amount of electrolyte was nearly equal to the inter-granular/inter-particle void space, wherein the particle-particle contact would inherently be at the maximum (Col-4, Lines: 34-43). Further, Warszawski et al teach filling of cavity with the paste and manipulation of the electrolyte to metal powder ratio for filing and transporting the paste while attaining maximum geometric concentration of granules (Col-5, Lines: 15-20; Col-6, Lines: 1-60; Col-9, Lines: 58-68). The change in the volume of the paste or slurry in relation to the mix of the dry powders would be inherent. The preparation of a paste having excess electrolyte for dosing the mixture and the removal of excess electrolyte would be inherent in the operations in making of the battery, as shown by Leparulo (US Patent # 3,847,671). All the limitations of the instant claims are met.
 - The reference is anticipatory.
 - In the alternative that the disclosure by Warszawski et al be insufficient to arrive at the instant claims, it is in the purview of a skilled artisan to make obvious modifications in composition and preparation parameters to improve the construction and performance of the batteries, and to arrive at the limitations of instant claims by the applicants.

- Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warszawski (US Patent # 4,172,924) in view of Yasumura et al (JP 10-032,002) or Tsutsui (JP 07-161,356).
 - The disclosure by Warszawski et al on the formulation of zinc-electrolyte paste is set forth as above.
 - Warszawski et al do not disclose the use of zinc or its alloy with a bulk density lower than 2.8 g/ml per the limitation of the instant claim by the applicants.
 - Yasumura disclose a negative electrode for an alkaline battery comprising of Zinc alloy powder with an apparent bulk density of 0.5-2.45 g/cc, 40% KOH solution containing saturated ZnO and a gelling agent with improved performance.
 - Tsutsui discloses an alkaline battery comprising of a zinc alloy powder with a bulk density of 2.2-2.6 g/cc with improved performance.
 - Warszawski et al teach the making of battery from a paste, manipulating of the paste and its advantages. It would be obvious for an ordinary skilled person in the art to further improve the battery of Warszawski et al by combining with the low bulk density zinc alloy powders providing better corrosion resistance and discharge performance per the teachings of either Yasumura et al or Tsutsui et al in to the mix and make any obvious changes to the composition and/or the fabrication techniques based on Design choice to arrive at the limitations of the instant claims by the applicants.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 703-305-4931. The examiner can normally be reached on M-Th, 07:00 - 15.30 hrs, Fri: 05.30-14.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

KMV
April 07, 2003.


Mark Kopec
Primary Examiner